



2011 Missouri Interoperable Communications Conference

***DOJ High-Risk Metropolitan Areas
Interoperability Assistance Project***

“25 Cities”

February 9, 2011



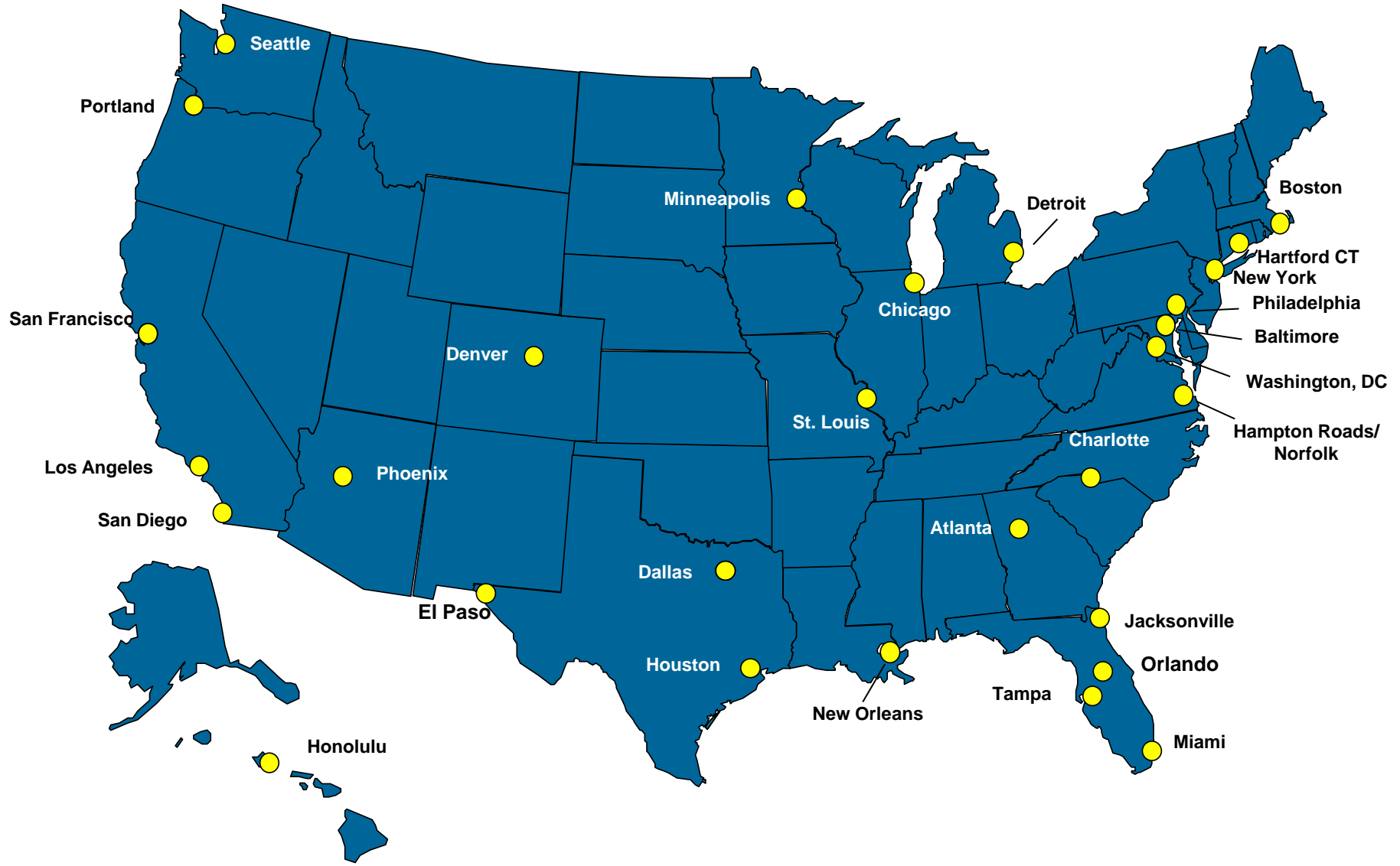
DOJ High-Risk Metropolitan Areas Interoperability Assistance Project

TODAY'S MEETING WILL DISCUSS THE FOLLOWING TOPICS

- **25 Cities Project**
- **VHF coverage**
- **800 MHz simulcast radio system coverage**
- **Patching via IPICS**
- **St Louis Quick Guide – St Louis Fact Sheet**
- **USDOJ Integrated Wireless Network**
- **SMART satellite**



DOJ 25 Cities Project Map

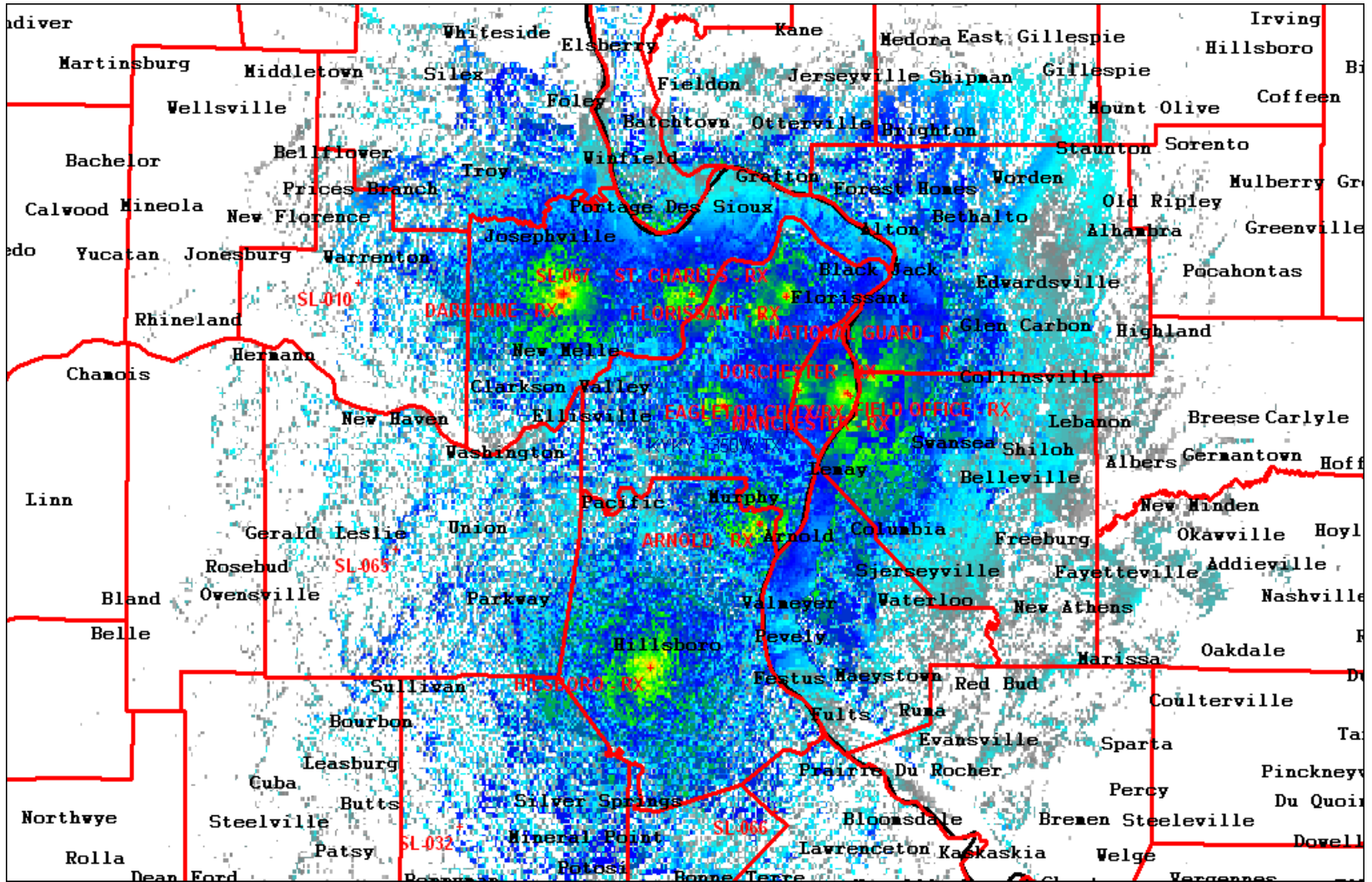


St Louis P25 VHF Interop Channels:

- 1. STL CALL – STL TAC***
- 2. Direct access to all Local, State , Tribal, and Federal Agencies with P25 VHF radios.***
- 3. Patching available via IPICS audio switch located at FBI St. Louis to 8CALL90 and 8TAC91.***
- 4. Weekly Roll Call on STL CALL planned to ensure equipment is working and familiarity as to who has access to the channel.***



***ST. LOUIS P25 VHF STL CALL – STL TAC Interoperability Channel—
Portable TALK-IN Coverage – 350 watt Transmitter in City of St Louis***



STL CALL & STL TAC PRIORITY

#1 An emergency incident.

#2 Interagency investigations or interagency operations.

#3 Regular use by agencies requiring another internal wide area channel to conduct an investigation or operation.

Information Necessary to Reserve a Channel

User's agency name.

User's name or radio call sign/designator.

Person or agency with whom the user wishes interoperable communications.

Reason for requesting interoperability.

Estimated time of use, if possible.

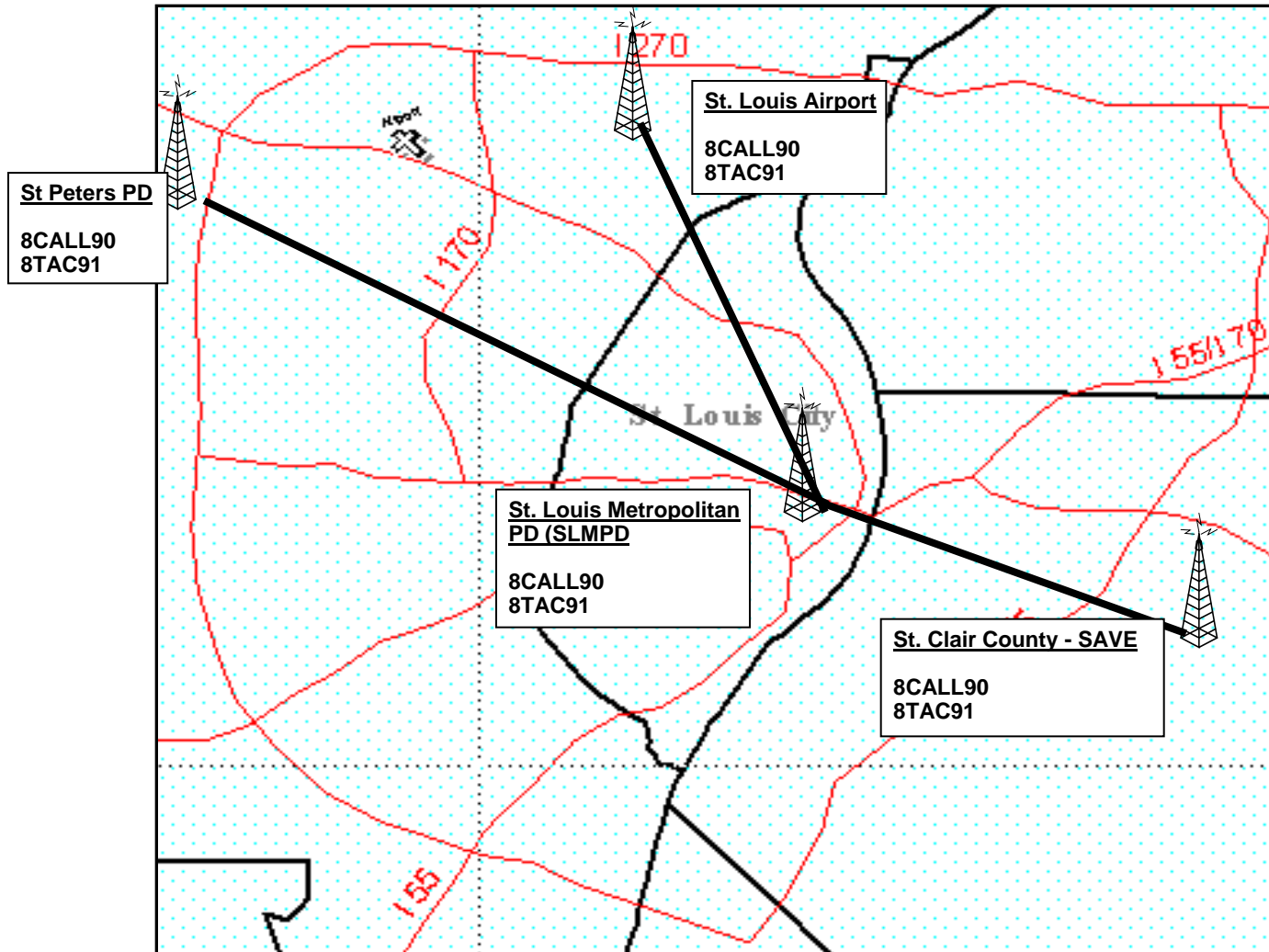


8CALL 90 – 8TAC91

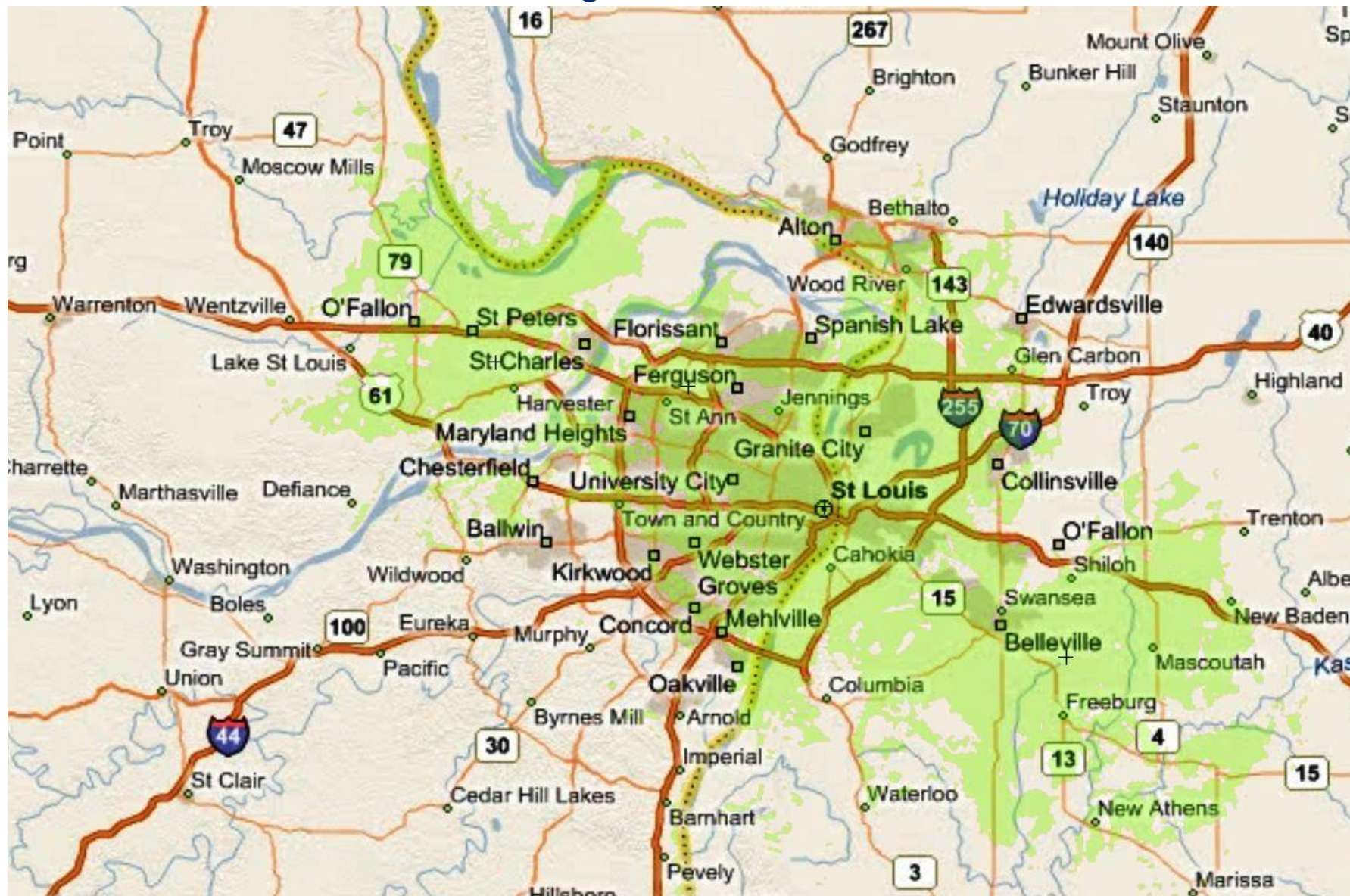
- 800 MHz 4 site simulcast system on 8CALL90 and 8TAC91 channels
- 8CALL90 – Mobile Tx 806.0125 Mobile Rx 851.0125
- 8TAC91 - Mobile Tx 806.5125 Mobile Rx 851.5125



The 8CALL90 SIMULCAST System will be patched to the P25 VHF STL CALL Channel via the IPICS switch at FBI St Louis



8CALL90 Portable Talk-in Coverage



DOJ High-Risk Metropolitan Areas Interoperability Assistance Project

Law Enforcement (LE) Interoperability Frequencies in St. Louis, Missouri

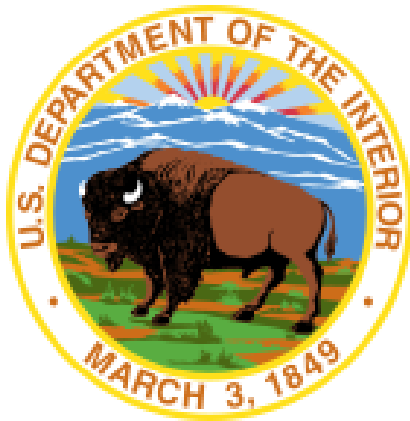
St Louis [383745N / 0901157W] 100KM					
Law Enforcement (LE) Channel Availability					
VHF Plan			UHF Plan		
Identifier	(MHz)	Mobile Rx (MHz)	Identifier	(MHz)	Mobile Rx (MHz)
LE A	167.0875 (simplex)	167.0875	LE B	414.0375 (simplex)	414.0375
LE 1	162.0875	167.0875	LE 10	418.9875	409.9875
LE 2	162.2625	167.2500	LE 11	419.1875	410.1875
LE 3	162.8375	167.7500	LE 12	419.6125	410.6125
LE 4	163.2875	168.1125	LE 13	414.0625 (simplex)	414.0625
LE 5	163.4250	168.4625	LE 14	414.3125 (simplex)	414.3125
LE 6	167.2500 (simplex)	167.2500	LE 15	414.3375 (simplex)	414.3375
LE 7	167.7500 (simplex)	167.7500	LE 16	409.9875 (simplex)	409.9875
LE 8	168.1125 (simplex)	168.1125	LE 17	410.1875 (simplex)	410.1875
LE 9	168.4625 (simplex)	168.4625	LE 18	410.6125 (simplex)	410.6125



Incident Response (IR) Interoperability Frequencies in St Louis, Missouri

St Louis [383745N / 0901157W] 100KM					
Incident Response (IR) Channel Availability					
VHF Plan			UHF Plan		
Identifier	(MHz)	Mobile Rx (MHz)	Identifier	(MHz)	Mobile Rx (MHz)
NC 1	164.7125	169.5375	NC 2	419.2375	410.2375
IR 1	165.2500	170.0125	IR 10	419.4375	410.4375
IR 2	165.9625	170.4125	IR 11	419.6375	410.6375
IR 3	166.5750	170.6875	IR 12	419.8375	410.8375
IR 4	167.3250	173.0375	IR 13	413.1875 (simplex)	413.1875
IR 5	169.5375 (simplex)	169.5375	IR 14	413.2125 (simplex)	413.2125
IR 6	170.0125 (simplex)	170.0125	IR 15	410.2375 (simplex)	410.2375
IR 7	170.4125 (simplex)	170.4125	IR 16	410.4375 (simplex)	410.4375
IR 8	170.6875 (simplex)	170.6875	IR 17	410.6375 (simplex)	410.6375
IR 9	173.0375 (simplex)	173.0375	IR 18	410.8375 (simplex)	410.8375





Integrated Wireless Network (IWN)

Overview



IWN Program Definition

IWN is a Land Mobile Radio (LMR) modernization and consolidation program designed to replace legacy systems for DOJ law enforcement Components and other key stakeholders.



Provide world class P25 (standards based), interoperable (federal, state, local & tribal), digital narrowband compliant (NTIA), secure (AES encryption via OTAR, SBU rated), tactical LMR voice communications to stakeholders.



IWN Program Goals

- Replace Antiquated Legacy Systems
- Digital Narrowband Technology
- Enhance System Security
- Consolidate Disparate Systems
- Improve Performance and Reliability
- Enhance Interoperability



IWN Status - P25 VHF Trunking

- Currently operational in States of Washington and Oregon

Used by DOJ, DHS, and local agencies

Motorola infrastructure (67 sites, Astro 7.8) and subscriber equipment

Wireline connectivity to several major local radio systems

- System build-out in Washington DC area accepted January 31, 2011

Users to be migrated to IWN system over next few months

Harris infrastructure (16 sites) and Motorola subscriber equipment (XTS5000 – APX7000)

Wireline connectivity to several major local radio systems



Anticipated NCR System Users

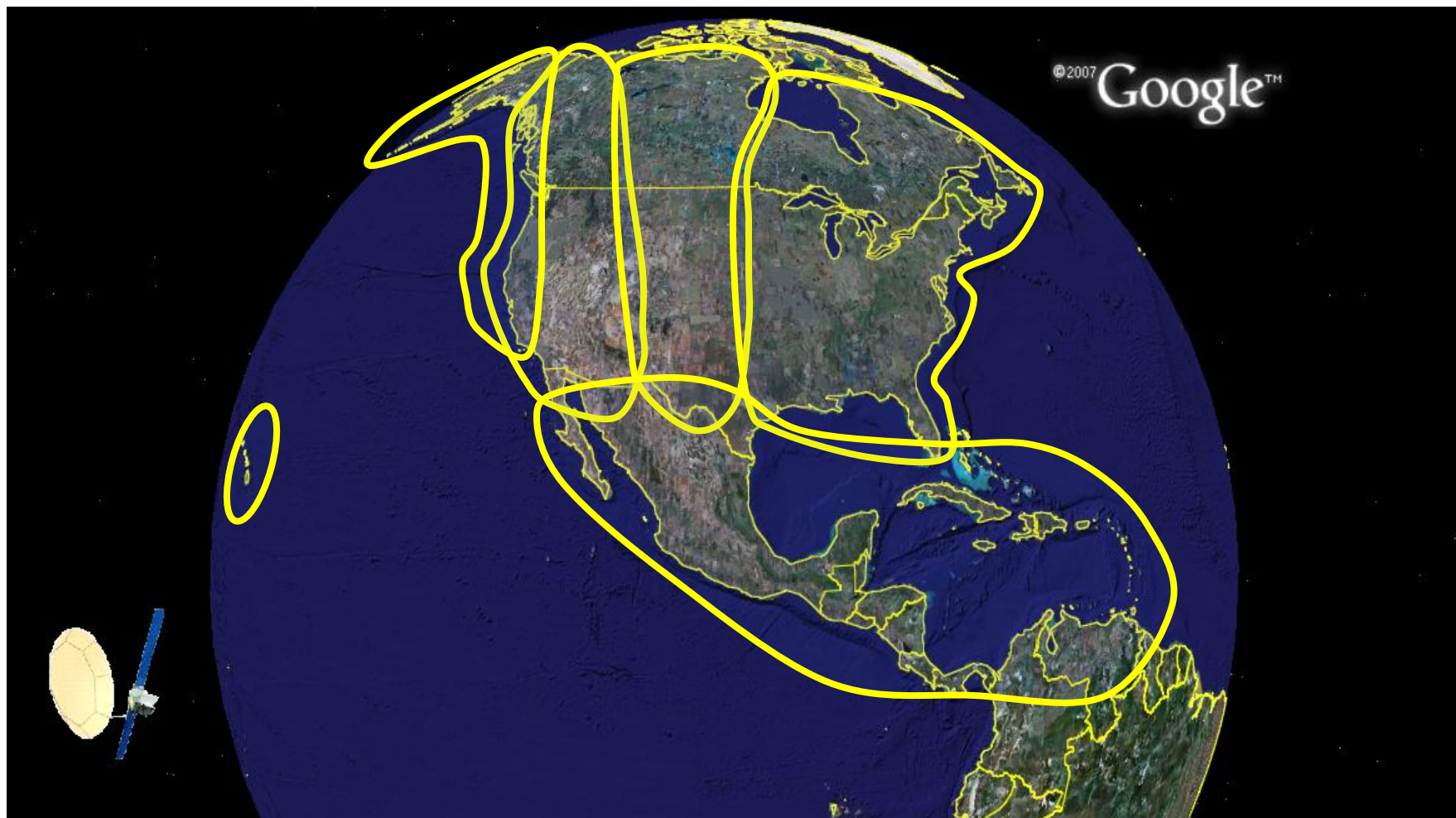
Department	Agency	Division/Office
DOJ	ATF	<ul style="list-style-type: none"> •Washington Field Division •Baltimore Field Division
	DEA	<ul style="list-style-type: none"> •Washington D.C. Division Office
	FBI	<ul style="list-style-type: none"> •Washington D.C. Field Office •Baltimore Field Office
	USMS	<ul style="list-style-type: none"> •Eastern District of Virginia •District of Columbia – District Court •District of Columbia – Superior Court •District of Maryland
DOI	NPS	<ul style="list-style-type: none"> •U.S. Park Police
Treasury	IRS	<ul style="list-style-type: none"> •IRS Criminal Investigation Division •Treasury Inspector General for Tax Administration



Skyterra/LightSquared Satellite Radio and J-SMART



Coverage



Note: Map is graphically representation and does not reflect 100% LightSquared's beam allocation.

Image courtesy of Google Earth



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Installation Examples



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Satellite Telephony Service

- **Full-duplex communication**
- **Push-to-talk / one to many**
- **Conventional dialing for all calls**
- **GETS Compatible**
- **Directory Assistance**
- **Call Management Features**
 - **Call Waiting**
 - **Call Forwarding**
 - **Call Barring**
 - **Conference Calling**
 - **Voice Mail**
- **Web-based GPS tracking**
- **OTAP**



Satellite Mutual Aid Radio Talkgroup (J-SMART)

J-SMART was created in September of 2007 as an interoperability Talk Group on the Mobile Satellite Ventures (now LightSquared) satellite network

Sponsored by DOJ / WMO and FBI / RSDU

Available at no cost to current MSV public safety users

Two-Way, Push-to-Talk (PTT) Voice Service
Unique among satellite providers
Up to 10,000 users in the talk group

Uses one of 15 Talk-Groups provided per Radio
Universal North American Coverage
Independent of PSTN



J-SMART Details

- Adam Siegel, Electronics Technician, FBI Quantico approached the WMO with an informal proposal and funding request. We pitched the idea to Skyterra and asked that they consider offering this service free of charge—they agreed.
- Currently 172 different federal, state and local agencies participating with over 2,025 units.
- Roll Calls held quarterly—averaging over 45 responses.
- 24/7 monitoring at FBI SEATTLE.



Missouri Participants

- St. Louis Emergency Management Agency
- Missouri Highway Patrol
- New Participants
 - ATF St. Louis
 - DEA St. Louis
 - FBI St. Louis
 - USMS St. Louis
 - FBI Kansas City



SMART Future

- New LightSquared satellite launched on Nov 14, 2010.
- PTT service currently guaranteed to be maintained until Dec 31, 2014 through emulation.
- Future of PTT depends on development of LTE technology.
- Future LTE talkgroup size could range from 100 to 800 users per net.
- Future service after 2014 may have to be procured through a reseller.



SMART Future - continued

- New LightSquared equipment will not enable direct connectivity to existing satellite PTT equipment on same net.
- New handsets will roam on a cellular system, and then jump to satellite when out-of-coverage.
- Looking for input regarding Ruggedized Handsets vs. cost to develop and manufacture.
- Will new handsets have extra battery life and accessories for additional power options?



Satellite Mutual Aid Radio Talkgroup

S

SATELLITE – communications you can count on in any emergency

M

MUTUAL – interoperable between agencies

A

AID – providing assistance whenever and wherever needed

R

RADIO – voice communication reaching out to those who need to know

T

TALKGROUP – sharing critical information to get the job done effectively and efficiently

Nationwide SMART Talkgroups



J-SMART & SMART-T – Public Safety
Manager: DOJ Wireless Management Office



F-SMART - Fire Service
Manager: Charlottesville (VA) Fire Dept.



NPHST-1 / NPHST-2 – Public Health
Manager: KY Department for Public Health



I-SMART – Critical Infrastructure
Manager: Seattle Public Utilities



E-SMART – EMS
Manager: KY Dept. for Public Health



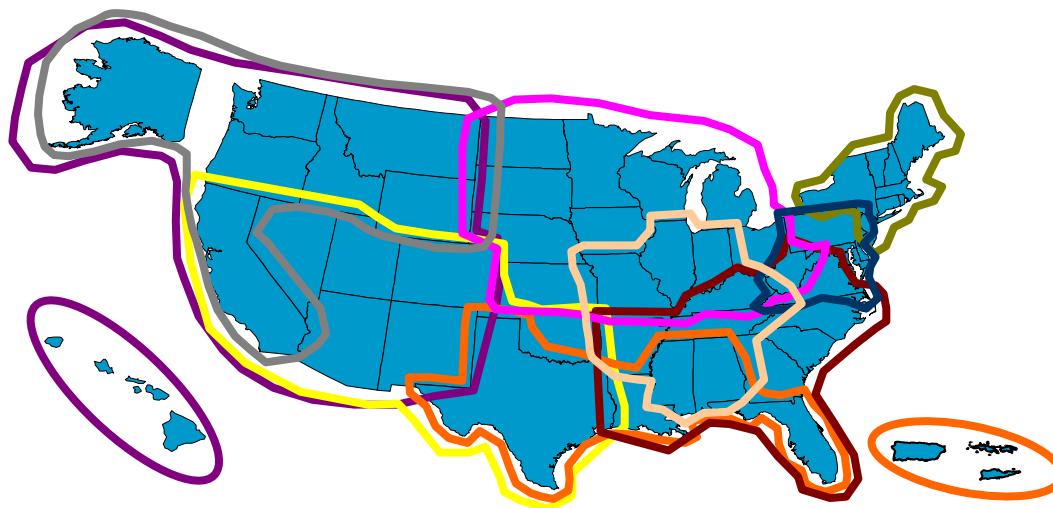
L-SMART - Law Enforcement
Manager: U.S. Marshals Service



U-SMART – Urban Search & Rescue
Manager: Montgomery County (MD) Fire & Rescue Service

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Regional SMARTTM Talkgroups



NESMART - CT, DE, MA, ME, NH, NY, NJ, PA, RI, and VT
Manager: Connecticut State Police



MWSMART - IA, IL, IN, KS, KY, MI, MN, MO, OH, ND, NE, SD, WI, and WV
Manager: IN Department of Homeland Security



M-SMART - DC, DE, MD, PA, VA, and WV
Manager: Allegany County (MD) Dept. of Public Safety and Homeland Security



SWSMART - AZ, CA, CO, NV, NM, OK, TX, and UT
Manager: Contra Costa County Fire Protection District



SESMART - AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, and WV
Manager: Fairfax County (VA) OEM/Public Safety Comm.



W-SMART - AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, and WY
Manager: California Emergency Management Agency



G-SMART - AL, FL, LA, MS, TX, PR, and VI
Manager: LA Governor's Office of Homeland Security and Emergency Preparedness



NWSMART - AK, CA, ID, MT, OR, WA, and WY
Manager: WA State Emergency Management Division

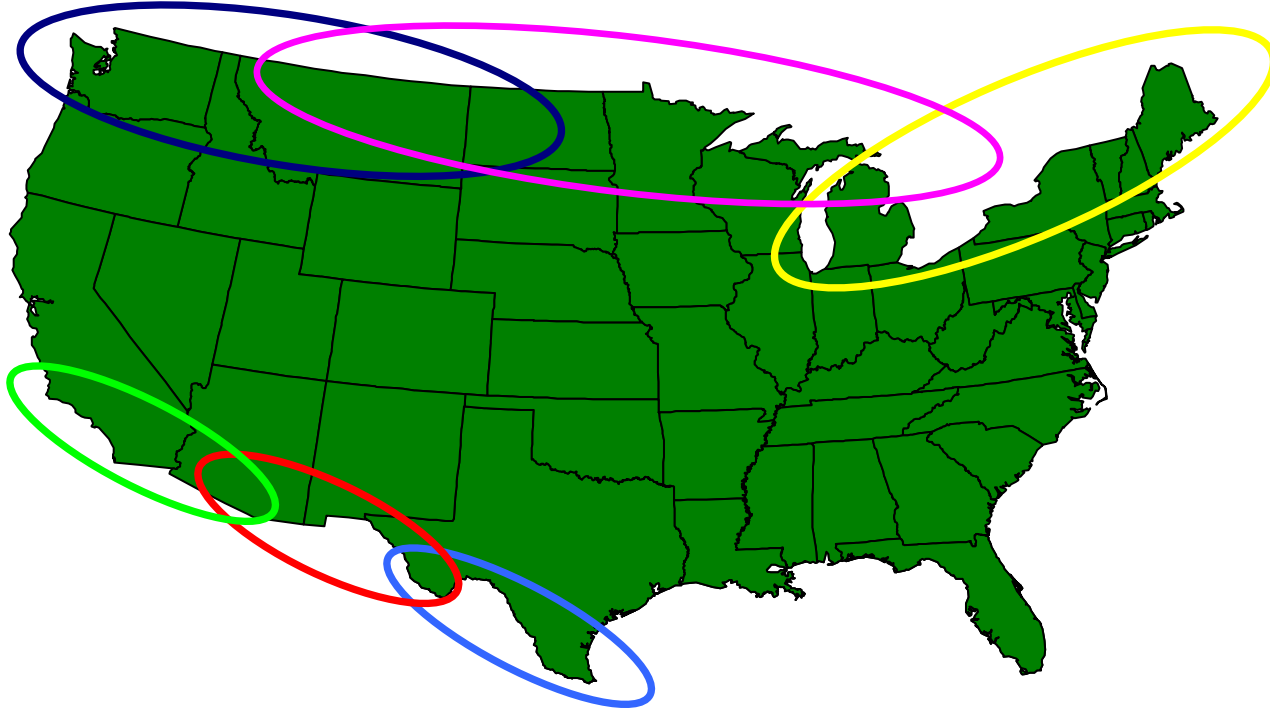


CUSEC-1 - AL, AR, IL, IN, KY, MS, MO, and TN
Manager: Central United States Earthquake Consortium



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Proposed Border SMART™ Talkgroups



MAB-1: Mexican American Border



MAB-2: Mexican American Border



MAB-3: Mexican American Border



CAB-1 Canadian American Border



CAB-2 Canadian American Border



CAB-3 Canadian American Border



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